

# **EXHIBIT 18**



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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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00/000,593 01/05/93 SAKAMOTO

S EXAMINER 7979-CON

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 ART UNIT PAPER NUMBER

23/4

DATE MAILED

03/22/93

**NOTICE OF ALLOWABILITY**

**PART I.**

- This communication is responsive to amendment filed on 1/5/93
- All the claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice Of Allowance And Issue Fee Due or other appropriate communication will be sent in due course.
- The allowed claims are 1, 2, 4, 7-17
- The drawings filed on \_\_\_\_\_ are acceptable.
- Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received.  not been received.  been filed in parent application Serial No. \_\_\_\_\_, filed on \_\_\_\_\_
- Note the attached Examiner's Amendment.
- Note the attached Examiner Interview Summary Record, PTOL-413.
- Note the attached Examiner's Statement of Reasons for Allowance.
- Note the attached NOTICE OF REFERENCES CITED, PTO-892.
- Note the attached INFORMATION DISCLOSURE CITATION, PTO-1449.

**PART II.**

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" indicated on this form. Failure to timely comply will result in the ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
- APPLICANT MUST MAKE THE DRAWING CHANGES INDICATED BELOW IN THE MANNER SET FORTH ON THE REVERSE SIDE OF THIS PAPER.
  - Drawing informalities are indicated on the NOTICE RE PATENT DRAWINGS, PTO-948, attached hereto or to Paper No. \_\_\_\_\_. CORRECTION IS REQUIRED
  - The proposed drawing correction filed on 7/13/92 has been approved by the examiner. CORRECTION IS REQUIRED.
  - Approved drawing corrections are described by the examiner in the attached EXAMINER'S AMENDMENT. CORRECTION IS REQUIRED
  - Formal drawings are now REQUIRED.

Any response to this letter should include in the upper right hand corner, the following information from the NOTICE OF ALLOWANCE AND ISSUE FEE DUE: ISSUE BATCH NUMBER, DATE OF THE NOTICE OF ALLOWANCE, AND SERIAL NUMBER.

**Attachments:**

- Examiner's Amendment
- Examiner Interview Summary Record, PTOL- 413
- Reasons for Allowance
- Notice of References Cited, PTO-892
- Information Disclosure Citation, PTO-1449
- Notice of Informal Application, PTO-152
- Notice re Patent Drawings, PTO-948
- Listing of Bonded Draftsmen
- Other

*Rolf Hille*  
**ROLF HILLE**  
 SUPERVISORY PATENT EXAMINER  
 ART UNIT 253

08/000593

G

Serial No. 08/000593

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Art Unit 2508

The following is an Examiner's Statement of Reasons for Allowance:

The object of the present invention is to provide a smoothly curved depletion boundary forming in the vicinity of the channel-free zone when the grooved-gate transistor is in turned-off state. The smoothly curved depletion boundary reduces the field concentration in the vicinity of the drain and reduces the fringe effect.

Although Takeda et al. shows a grooved-gate MOSFET in fig. 1, the flat depletion zone of the drain region terminates abruptly with the depletion zone of the gate in the vicinity of the channel free zone. Takeda et al. does not teach a smoothly curved depletion boundary in the vicinity of the channel-free zone. In addition, none of the prior arts show the above claimed invention.

Also, Takeda et al. does not show source and drain regions are self-aligned to the gate electrode.

Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Art Unit 2508

An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

Authorization for this Examiner's Amendment was given in a telephone interview with Gideon Gimlan on 3/18/93.

Claim 1, line <sup>✓</sup>3, delete "main".

Claim 1, line <sup>✓</sup>18, claim 2, lines <sup>✓</sup>7, 10 and 13, delete "(Lg2)".

Claim 2, line <sup>✓</sup>1, change "film" to --field--.

Claim 8, line <sup>✓</sup>5, change "the" to --a--.

Claim 9, line <sup>✓</sup>6, change the first occurrence of "the" to --an--.

Claim 17, line <sup>✓</sup>25, delete "so".

Any inquiry concerning this communication should be directed to Steven Loke at telephone number (703) 308-4920.

sl

March 18, 1993

*S.L.*

*Rolf Hille*  
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SUPERVISORY PATENT EXAMINER  
ART UNIT 2508